

INTRODUCTION

This manual will familiarize you with the installation and use of your **PRINCETON VL1919** LCD Monitor, Please take the time to look through these instructions even if you are familiar with monitors.

We have taken all possible care to ensure that this manual contains correct, accurate information. However, the manufacturer cannot assume liability for any possible errors. In addition, the manufacturer cannot guarantee that the hardware will meet the purpose you require.

All rights reserved. No part of this manual may be reproduced, processed or distributed in any form (print, photocopy, microfilm or any other process) or processed by an electronic system without prior written permission from the manufacturer.

We reserve the right to make changes according to technical progress. **PRINCETON VL1919** is an internationally registered trademark. Other brand names may be registered trademarks and must be treated as such.

Important Safety Instructions

Do not place the monitor in very hot or cold, or damp or dusty surroundings. Do not put vases etc. on the monitor (water may cause short circuits). Do not block or cover the ventilating openings. All products that produce magnetic fields, i.e. laser printers, loud speakers, etc., must not be placed close to the monitor. Do not install this monitor in areas where too much light or sunshine might directly hit the screen, otherwise the brightness of the picture will be poor due to reflections. Refer all servicing and maintenance to authorized service personnel only!

CAUTION

Do not remove the cover!

Serious electrical shock hazards exist inside this monitor.

NOTE

Removal of cover invalidates your warranty.

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IMPORTANT INFORMATION

Note on monitor placement

- The setup location must not be extremely hot, cold, humid or dusty. Heat and cold can impair the functionality of the monitor. Humidity and dust can cause the monitor to fail.
- Don't place the monitor near heaters such as radiators or the like. Don't expose the monitor to mechanical vibration or jarring.
- Position the monitor so that no direct light or sun strikes the screen, which could cause reflections that reduce the quality of the image.

Notes on power connection

- Only use the power cord designated for use in your country. The wall outlet should be within easy reach. Pulling the power plug is the only way to disconnect the monitor from the power source.
- This monitor is ENERGY STAR®-compatible, and guarantees that this device complies with the ENERGY STAR® guidelines for optimizing power consumption.

Safety instructions for operation

- The power cord must not be damaged. Do not place any objects on the power cord and make sure it does not have any knots. To unplug the cord, always pull on the plug and not on the cable itself. Damage to the power cord may result in fire or cause electric shocks.
- Avoid covering the ventilation slots. Air circulation is necessary to prevent the monitor from overheating. If the air circulation is restricted it could cause fire or damage the monitor.
- Do not use any solvents to clean the monitor, as the housing could be damaged. For more information about cleaning the monitor, please see "Caring for Your LCD Monitor".
- Never open the monitor housing on you own. There is a danger of electric shock and other hazards. The monitor may only be opened and serviced by qualified professionals.

Note on resolution

All resolutions provided by the graphics card that deviate from the physical resolution of the panel are adjusted by interpolation. This can impair the image quality.

Notes on ergonomics

To protect your eyes, neck and shoulder muscles when working with a computer, we recommend that you maintain a viewing distance of between 50 and 75 cm from the monitor. Furthermore, you should regularly focus on an object around 6 m away from you to help your eyes relax. Ergonomically, your posture is best when elbows, pelvis, knees and ankles are all at right angles.

CARING FOR YOUR LCD MONITOR

- First, unplug the power cord from the wall socket
- If the LCD screen is extremely dirty, clean it with a moist cloth. Use only warm water and then wipe the monitor dry. Solvents or harsh cleaners can damage the housing. Clean the display surface only with a soft cloth, otherwise you may damage the display's coating
- If the monitor is only slightly dirty, clean it using a soft, dry and antistatic cloth.
- The LCD monitor's screen surface is very sensitive. Please avoid any contact with the surface (finger, pencil, etc.) and be especially cautious during transportation since jolts and shocks can cause the screen to become scratched (always use the original packaging).

WALL MOUNTING

The **PRINCETON** monitor is shipped with the standard desktop configuration. However, you can optionally mount the device on a wall or on a monitor swivel arm (optional accessory). Please follow the corresponding instructions (4-hole assembly with a spacing of 4 × 4 inches (100 × 100 mm) according to the international VESA FDMI standard).

UNPACKING

Carefully lift the monitor out of the packaging and make sure that all components are included (see fig. 1). Save the original box and packing material in case you have to ship or transport the monitor. To set up the device, you must fit the monitor base together.

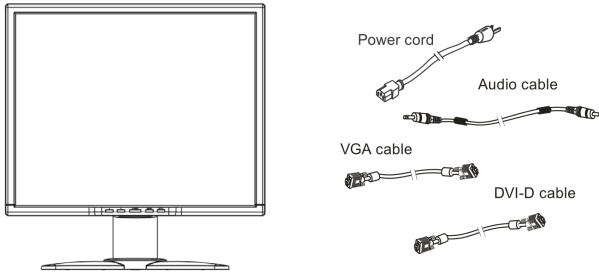


Figure 1. LCD Monitor

CONNECTING

◆ To connect the monitor to your PC

1. Make sure that the PC and the monitor is unplugged.
2. Connect the 15-pin signal cable to the monitor and The PC (see fig. 2)
3. If you have a graphic card with a digital DVI-D connector(24-pin socket), then connect one end of the DVI-D cable to the DVI-D connector of your monitor (see fi g. 2b), the other end to the computer.

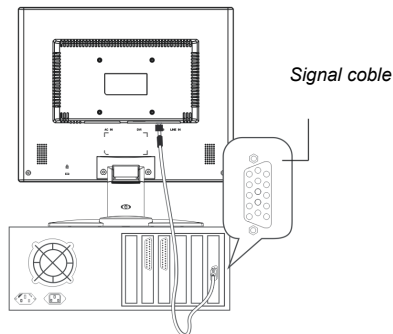
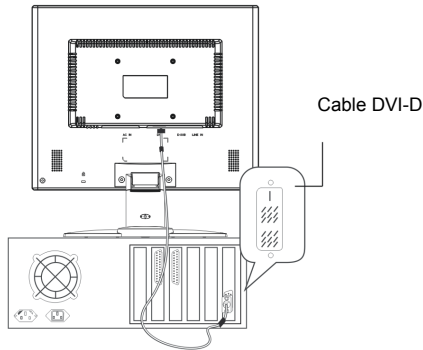


Figure 2. Connecting the monitor to the PC



◆ Connecting the audio cable

If your computer is equipped with an audio output port, connect one end of the sound cable to the audio Input connector of the monitor (① in fig. 3) and the other end to the Line-Out connector of the computer.

◆ To connect the monitor to the power source

Connect the separate power cable (② in fig. 3) to the Monitor and a grounded outlet.

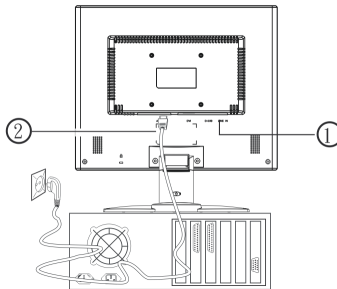


Figure 3. Connecting the monitor to the power source

STARTUP

1. First start your PC and then turn on your monitor using the power switch (④ in fig. 4). The status indicator (④ in fig. 4) should light up green.
2. Adjust the image to meet your requirements (see the following sections “Basic Setup” and “Image settings using the OSD menu”).
3. If there is no image displayed on the monitor, consult the section “Troubleshooting”.

BASIC SETUP

◆ Automatic Image Adjustment

You can adjust the image settings (such as brightness, contrast, image position, phase, etc.) manually or by using the LCD monitor's automatic image adjustment feature. This will adjust the image parameters to their optimal settings for the current graphics mode. Press **SELECT/AUTO** (① in fig. 4) to launch the automatic adjustment. The process will take a short while until completed.

◆ Setting the volume directly

You can adjust the speaker volume of the integrated audio system directly by pressing the ◀ or ▶ buttons (③ and ② in fig. 4) while the OSD menu is inactive. Next press the ▶ button to increase the volume or the ◀ button to decrease it.

◆ Shortcut for adjusting brightness and contrast

You can adjust brightness and contrast directly by pressing the ▲ or ▼ buttons (⑥ and ⑤ in fig. 4) while the OSD menu is not displayed. Next, press the ▲ or ▼ buttons (⑥ and ⑤ in fig. 4) to adjust the brightness or the ◀ or ▶ buttons (③ and ② in fig. 4) while the OSD contrast.

◆ Disabling the sound (MUTE)

You can mute sound playback by pressing the ◀ or ▶ buttons (③ and ② in fig. 4) while the OSD menu is not displayed. Next, press the ▼ button to mute the sound or the ▲ button to reactivate it.

1. IMAGE SETTINGS USING THE OSD MENU

The OSD menu is a window on your screen that allows you to view and change display settings. To change an OSD setting:

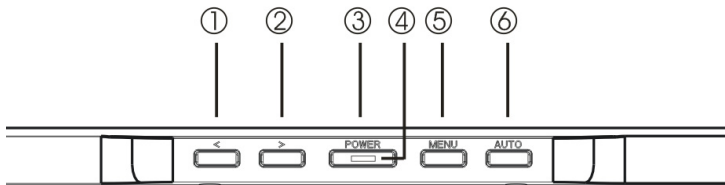


Figure 4. Monitor features

Press the **MENU** button (⑤ in fig. 4) to display the OSD menu on the screen.

1. There are a total of 5 OSD submenus divided by categories. Select the desired submenu by pressing the OSD button ◀ or ▶ (① and ② in fig. 4; see section "OSD Menu Functions").
2. Press the OSD button **MENU** (⑤ in fig. 4) to activate the selected function or associated submenu.
3. If you selected submenu, now select the sub-function you want using ◀ or ▶ (① and ② in fig. 4)

4. Set the desired value using the OSD button < or > (① and ② in fig. 4)
5. The current settings are automatically saved when you return to the previous level or exit the OSD menu. Repeat steps 2–5 to make further adjustments as needed.
6. The OSD menu automatically disappears if no changes are made for more than 45 seconds (default setting). The current settings will be saved. You can close it manually by pressing the button **AUTO** (③ in fig. 4).

2.OSD Structure

2.1 Menu Items

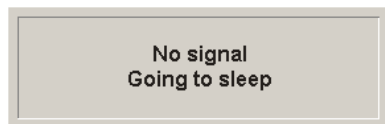
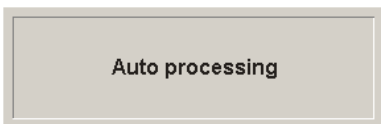
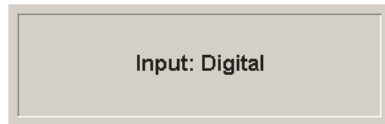
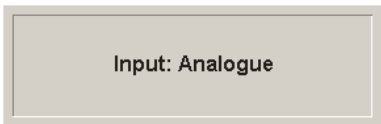
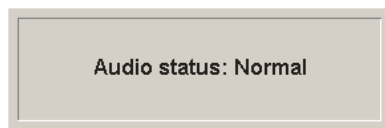
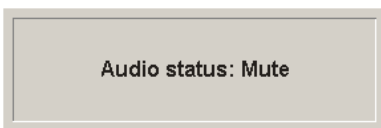
Level 1	Level 2	Level 3	Default setting
Brightness/Contrast	Brightness Contrast Black level Auto Level	- / +	100%
		- / +	=50%
Image Adjust	Auto Adjust H-Position V-Position Clock Phase	- / +	Preset Timing
		- / +	Preset Timing
		- / +	Preset Timing
		- / +	Preset Timing
Audio	Volume Mute	- / +	50%
		Mute / Normal	Normal
Color	sRGB 6500 7500 9300 Native User		6500
		R G B	- / + - / + - / +
OSD Setup	Language OSD H-Position OSD V-Position OSD Timeout OSD Rotation	English, French, German, Italy, Netherlands, Russia, Swedish, Spain	English
		- / +	50%
		- / +	50%
		10 / 20 / 30 / 40 / 50 ... 120	30
		On / Off	Off
Advanced	Input select Sharpness Resolution Notifier Factory recall	Analogue / DVI- digital	Last selected mode on DVI Input
		- / +	
		On / Off	On
Information	Monitor Info Mode	Model Name, S/N	
		Resolution, Frequencies, Sync-Pol., Input	

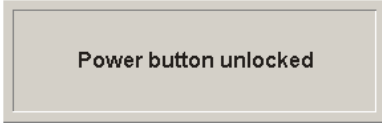
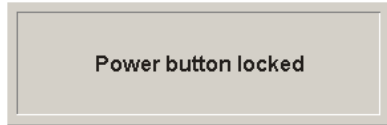
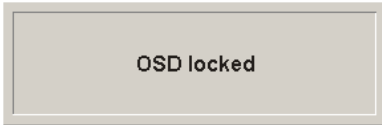
2.2 Messages

Message
Audio Status +- Audio Status: mute +- Audio Status: normal
Auto Adjust +- Auto processing
Input Status +- Input: Analogue +- Input: Digital
No Signal +- No signal Going to sleep
OSD locked +- OSD locked
Power button locked +- Power button locked +- Power button unlocked
Out of Range +- Frequency out of range: ## kHz / ## Hz Please change the display mode to 1280 x 1024 with 60 Hz.
Resolution notice +- For best picture quality, please change resolution to 1280 x 1024. SELECT: Disable EXIT: Clear

2.2.1 Message window style and size

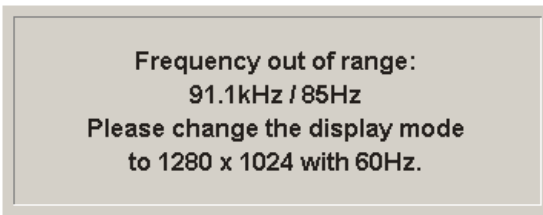
Size 1: 290 x 94 pixels:





-Input select message window to be defined-

Size 2: 360 x 140 pixels for Resolution notice and out of range message:



2.2.2 Message location

All messages are centered on the screen.

2.2.3 Message time-out

All messages are disappearing automatically after 3 seconds, except:

- Resolution notice message keeps until end user either disables or exits message
- Out of range message keeps until monitor enters to PS mode

3 Function description

3.1 Start up logo

When the monitor is switched on, the FSC logo is shown in center of screen with a black screen for about 2 seconds.

3.2 Key response

All changes of options with adjust bars will take place immediately. Also the color temperature menu shows immediate response, when the selection cursor is moved. All other options are stored when EXIT is pressed.

3.3 Preview of next menu level

The OSD shows a preview to the options and settings of the next menu level if applicable.

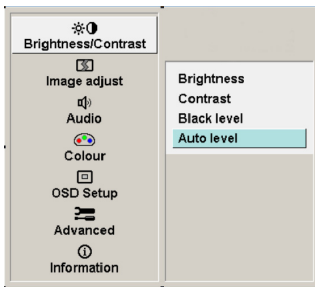
The active menu level shows a bright background [4] and a colored cursor bar [3] (see color table). The inactive menu level areas show the gray background [2].

3.4 Input detection for dual input monitors

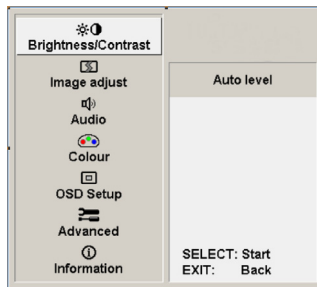
If there is no signal on the actual input, the MCU should search also on the other input for a valid signal. If the preferred input has no signal but the other, than the input status message is shown. If both inputs have no signal the monitor shows the "No signal, going to sleep" message.

3.5 Auto level

Cursor moved to Auto level



SELECT is pressed 1st time



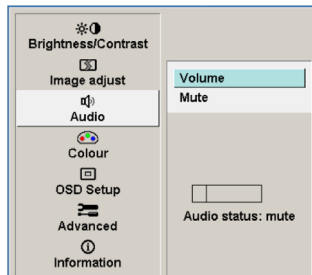
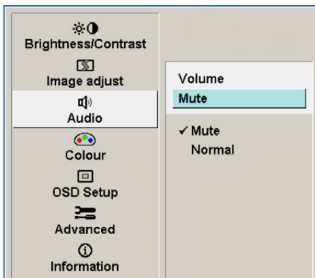
A confirmation dialog is shown

After selecting 2nd time, the auto level adjustment is performed and the menu returns back one level.

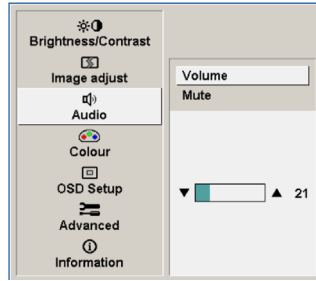
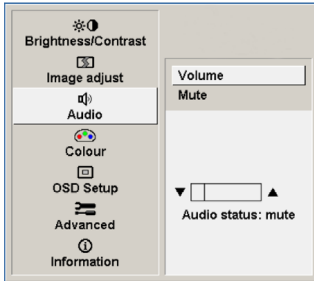
This function should set the black level to the black level of the signal or to factory default black level and signal input range to the actual signal white level.

This should work at least from 550 mV to 1000 mV.

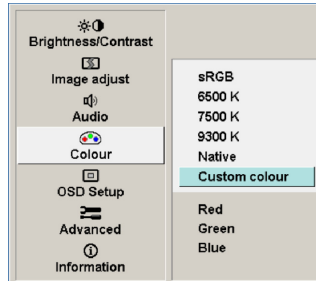
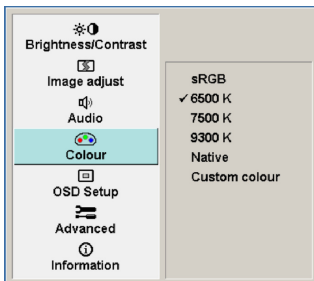
3.6 Audio



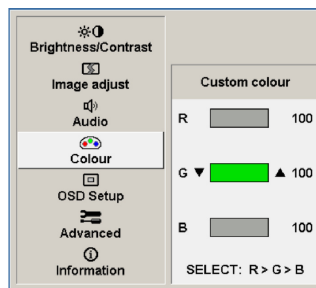
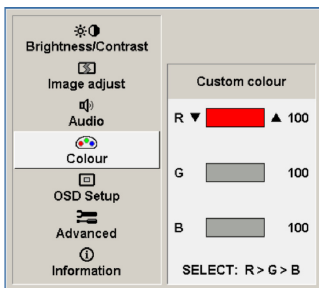
If mute is activated, the adjust bar of volume is not filled, but any change of volume switch audio status back to normal.



3.7 Custom colour



After Custom colour is selected, the 3 adjust bars for red, green and blue are shown. SELECT button navigate between red, green and blue, while ▼ and ▲ buttons change the highlighted colour value.



A hint is shown: SELECT: R > G > B

3.8 Factory recall

When selected 1st time a confirmation dialog is shown:

SELECT: Start
EXIT: Back

After selected 2nd time, this function sets every option value to the factory-preset value.

After factory recall is finished, the OSD menu is closed and auto adjust is performed for the current mode, excluding all 31 kHz modes.

3.9 Out of range message

This message starts to move slowly around the screen after 5 seconds. After 5 minutes the monitor changes to power down mode.

3.10 Resolution notice

When enabled, this message appears when a resolution other than the panel resolution is selected with a delay of 30 seconds to avoid the message appearing during boot sequence of operating system.

When pressed SELECT, this message is disabled and disappears from the screen. It also disappears after EXIT is pressed.

3.11 OSD lock / unlock

When the MENU button is pressed during power on and held for 5 seconds, OSD menu is locked and the message "OSD locked" appears. The message "OSD locked" pops up instead of the OSD menu, when the MENU button is pressed in OSD lock condition.

To unlock OSD menu, repeat the same procedure as for lock. This opens the OSD menu.

3.12 Power button lock / unlock

To lock/unlock the power on/off button, press up and down button simultaneously (within 0.5 seconds). The status message "Power button locked / unlocked" appears.

Every time, the power button is pressed in locked condition, the message "Power button locked" appears.

3.13 Service menu

The service menu includes the accumulated operating time (backlight on).

TROUBLESHOOTING

Blank Screen

Power indicator is off

- Make sure the power cable and the power adapter are connected properly (see section “Connecting”).
- Make sure that the monitor was turned on using the power switch (see section “Startup”).

Power indicator lights orange

- A screen saver may have activated automatically after a certain period of inactivity. Press any key on your keyboard or move the mouse.

“Check signal cable”message

- Is the signal cable connected to the monitor and the PC’s graphics port (see section “Connecting”)?
- Is the PC turned on (see your PC’s documentation)?

Display Problems

Image is displaced to the left/right or to the top/bottom

- If the image appears normal but off-center, you can adjust it using the OSD functions. For further information, see chapter “Basic Setup”, section “Auto Image Adjustment”.

Image flickers or is shaky

- Perhaps setup file chosen for the monitor is incorrect. For information on monitor setup under Windows®9x/ME/2000/NT/XP consult the “Configuration” section.

Image is blurred

- Check brightness and contrast settings (see chapter “OSD Menu Functions”, section “Brightness/Contrast”).
- Check the resolution setting (see “Other” functions in the “OSD Menu Functions” section).

Color problems

- If the colors are off (e.g. white is not really displayed as white, etc.), you should adjust the color temperature (see “Color” function in section “OSD Menu Functions”).

TECHNICAL SPECIFICATIONS

LCD panel	19 inch diagonal size, low radiation according to TCO '99, certified to ISO 13406-2
Contrast ratio	700:1 (typical)
Viewing angle	horizontal 140°, vertical 130° (typical)
Response time	6 ms typical (Tr + Td)
Brightness	300 cd/m ² (typical)
Input signal	Analog (D-SUB) & DVI-D (digital)
Display colors	16.2 mill. Color (FRC)
Synchronization	31~ 81 kHz horizontal, 56 ~ 75 Hz vertical
Video band width	135 MHz (pixel rate)
Ergo. resolution	1280 × 1024 (60 Hz)
Audio	Amplifier: 1 Watt at 8 Ohms
Power connection	Loudspeaker: 1 W continuous load, 1.5 W peak power
Power consumption	Input: 100-240 V+/-10%AC-CD, 50/60 Hz ON status: max.37 W; color of the status LED: blue SLEEP status: <1.5W; color of the status LED: amber Power saving functions EPA certified
Dimensions	Width: 410 mm, height: 420 mm, depth: 178 mm
Weight	4.4 kg (net)
Environmental	Operation: 5 - 35°C, humidity:20 - 90% (without condensation) Storage: -20- +60°C, humidity:5 – 90% (without condensation)

CONFORMITY AND COMPLIANCE

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception (this can be determined by turning the device off and on), you are encouraged to try to correct the interference by one or more of the following measures:

- ❖ Reorient or relocate the receiving antenna.
- ❖ Increase the separation between the equipment and the receiver.
- ❖ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Caution

To comply with the limits for an FCC Class B computing device, you should use the shielded signal cord and shielded power cord supplied with this unit. The Federal Communication Commission warns that changes or modifications of the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio Frequency Interference Statement

Warning

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

ENERGY STAR

This product meets the Energy Star guidelines for energy efficiency.



PRINCETON DIGITAL (USA) CORP.

Your LCD monitor from Princeton Digital purchased in the United States and Canada is warranted to be free from defect in materials or workmanship for parts, labor and LCD panel and Backlight for the periods of time set forth in the chart below:

1 years Parts

1 year LCD Panel & Backlight

1 year Labor

All warranty periods begin from the date of the monitor's original retail purchase, as brand new product. If unit was purchased as a demonstration or evaluation unit, warranty period begins from original reseller purchase date. If demonstration or evaluation unit is resold at a later date, reseller is responsible for declaring status to user and unit is sold "as is" condition and with the remaining warranty period from original reseller purchase date. If the monitor fails to conform to this warranty, we will replace it with a new or refurbished monitor or repair it using new or refurbished parts. Refurbished units (meaning working product with minor cosmetic damages) warranty period, if any, will be established at time of sale from manufacturer.

To obtain warranty service in the United States, you must return the LCD monitor within the warranty period together with the original or a machine reproduction of a dated proof-of-purchase document describing it and a return merchandise authorization to an authorized service center, transportation charges prepaid. To obtain the name and address of the nearest authorized service center and a return merchandise authorization, call 1-800-747-6249. (English Only)

This warranty does not cover defects, malfunctions or failures resulting from shipping or transit accidents, abuse, misuse, operation contrary to furnished instructions, operation on incorrect power supplies, operation with faulty associated equipment, modification, alteration, improper servicing, tampering or normal wear and tear or LCD monitors on which the serial number has been removed or defaced. Interface cards, cables or mishandling are not covered by this warranty. LCD panel pixel defects within the panel manufacturer's specifications or mishandling of the LCD display by applying excessive pressure to the panel are not covered under this warranty.

ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE PERIOD OF TIME SET FORTH ABOVE. OUR LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING OUR NEGLIGENCE, ALLEGED DAMAGE OR DEFECTIVE GOODS, WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE MONITOR. WE SHALL NOT BE RESPONSIBLE FOR LOSS OF USE, COMMERCIAL LOSS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This is the only warranty applicable; no one is authorized to extend or modify it or to grant any other warranty.